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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/010,948      | 12/06/2001  | Reinhard Berger      | GS 0466 A US        | 5713             |

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02/27/2003

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EXAMINER

BURCH, MELODY M

ART UNIT

PAPER NUMBER

3683

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                               |  |
|------------------------------|-------------------------------|-------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/010,948 | Applicant(s)<br>BERGER ET AL. |  |
|                              | Examiner<br>Melody M. Burch   | Art Unit<br>3683              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2001.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 1. The phrase "within which" in line 5 is indefinite. It is unclear to the Examiner whether Applicant intends to claim the gear being carried in the first or second receptacle. Examiner has interpreted "within which" as referring to --within the second receptacle--.

Re: claim 14. The phrase "one journal bearing " in lines 1-2 is indefinite. It is unclear to the Examiner whether the journal bearing in claim 14 is intended to be included in or separate from the journal bearings claimed in claim 13. Examiner has interpreted the claim to read as ---wherein one of the journal bearings--.

Re: claim 14. Claim 14 recites the limitation "the energy accumulator" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claims 2-13 are indefinite due to their dependency from claim 1.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, and 12-14 rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4635491 to Yamano et al.

Re: claims 1 and 2. Yamano et al. show in figure 1 an actuator capable of being used for actuating an automatic clutch or an automatic transmission, the actuator comprising: a housing 11,25 that includes an axially extending first receptacle 11 for slidably receiving a toothed rack 7, and a second receptacle shown in the area of element number 25 adjacent to the first receptacle and within which a gear 3 is rotatably carried, wherein the gear is in meshing engagement with the toothed rack via elements 21,22,26,27,6, and an electric motor 1 drivingly connected with the gear, wherein the electric motor and the gear are provided as a pre-assembled unit as shown and are connected with the housing.

Re: claims 12 and 13. Yamano et al. show in figure 1 the limitation wherein the toothed rack is supported in bearings 15,16 carried adjacent end areas of the first receptacle.

Re: claim 14. Yamano et al. show in figure 1 the limitation wherein one journal bearing defines a stop for the energy accumulator 14 within the housing.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 4951915 to Piao in view of US Patent 4765651 to Unger.

Re: claims 1, 2, and 11. Piao shows in figures 1 and 2 an actuator capable of actuating an automatic clutch or an automatic transmission, the actuator comprising: a housing 1 that includes an axially-extending first substantially cylindrical receptacle 14 capable of slidably receiving a substantially cylindrical toothed rack 51,52, and a second receptacle shown in the area of element number 8 adjacent to the first receptacle and within which a gear 71 is rotatably carried, wherein the gear is in meshing engagement with the toothed rack via intervening gears, and an electric motor 7 drivingly connected with the gear with the electric motor and the gear being connected to the housing but does not specifically disclose that the electric motor and the gear are provided as a pre-assembled unit. Unger teaches in figure 5 the use of an electric motor 40 being pre-assembled with a gear 35 before being connected to housing 60, the motor and the gear therefore forming a pre-assembled unit before its attachment to the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electric motor and the gear of Piao to have included a motor and a gear assembled as a pre-assembled unit, as taught by Unger, in order to provide a means of reducing the complexity of manufacturing.

Re: claim 3. Piao shows in figure 2 an energy accumulator 511 positioned between and in contact with the toothed rack and the housing, and wherein the toothed rack is movable in a first direction of movement that is opposite to a force imposed on

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the toothed rack by the energy accumulator, and is movable in a second direction by the force of the energy accumulator.

Re: claims 4-6. Piao shows in figure 2 the limitation wherein the energy accumulator contacts the toothed rack at a first protrusion shown in the area of the lead line associated with element number 5 extending outwardly from the toothed rack.

With regards to claim 6 it is noted that in *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965) the court held that the use of a one piece construction instead of several parts rigidly secured together would be merely a matter of obvious engineering choice.

Re: claims 7-9. Piao shows in figure 2 wherein the energy accumulator contacts the housing as shown on the left side of element 511 at an inwardly extending second protrusion within the housing.

Re: claim 10. Piao discloses the first protrusion on the toothed rack as shown to the same extent as Applicant's. Examiner takes Official Notice the fact that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized interlocking, friction locking, force locking, material locking connection, or any other suitable means of connecting the first protrusion and the toothed rack as determined by routine experimentation to provide a means of securely attaching the two components. Additionally, Examiner notes that the patentability of a product does not depend on its method of production. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP 2113.

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7. Claims 1, 2, 11, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5125290 to Cotter in view of Unger and US Patent 3400593 to Darnell.

Re: claims 1, 2, and 11. Cotter show in figures 1 and 2 an actuator capable of actuating an automatic clutch or an automatic transmission, the actuator comprising: a housing 26 that includes an axially-extending first receptacle shown in the area of element number 24 capable of slidably receiving a toothed rack 18, and a second receptacle shown in figures 9 and 11 in the area of element number 22 adjacent to the first receptacle and within which a gear 22 is rotatably carried, wherein the gear is in meshing engagement with the toothed rack as shown in figure 9, and a driving means as disclosed in col. 1 line 65 drivingly connected with the gear, but does not specifically disclose that the driving means is an electric motor nor that the electric motor and the gear are provided as a preassembled unit. Darnell teaches in figure 1 the use of a similar actuator arrangement having a rack and pinion gear mechanism that is driven by an electric motor 19. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the driving means of Cotter to have included an electric motor, as taught by Darnell, in order to provide an old and well-known means of driving the rotation of the gear to result in the linear motion of the toothed rack. Unger teaches in figure 5 the use of an electric motor 40 being pre-assembled with a gear 35 before being connected to housing 60, the motor and the gear therefore forming a pre-assembled unit before its attachment to the housing. It would have been obvious to one of ordinary skill in the art at the time the invention was



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made to have modified the electric motor and the gear of Cotter, as modified, to have included a motor and a gear assembled as a pre-assembled unit, as taught by Unger, in order to provide a means of reducing the complexity of manufacturing.

Re: claims 12 and 13. Cotter shows in figure 9 the limitation of the toothed rack being supported in bearings 66(L),66(R) carried by adjacent end areas of the first receptacle as shown.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents: 5597181 to Lyles et al. teach in the figures 9B and 9C an actuator having a housing including an axially extending first receptacle coaxial with element 288, a toothed rack 268, a second receptacle shown in the area of element number 264 in which a gear 274 is rotatably carried, but does not teach that an electric motor is drivingly connected with the gear, that the motor and the gear are provided as a preassembled unit or that member 286 is an energy accumulator, 5082077 to Holka, 1360518 to Funk, 4333270 to Catlett, 6100655 to McIntosh, 5941755 to Danielian, 4850321 to Brisbon et al., 4967510 to Torri et al., 6126302 to Corn, 5307339 to Tanaka, 5537782 to Klippert et al., 6318196 to Chang, 3634002 to Vollrath, 4044631 to Matousek et al., 4670679 to Koot et al., 6393929 to Quere et al., 5718149 to Phillips, 5390557 to Tsukada, 5186486 to Hynds et al., 5031972 to Steinhauser et al., 4986382 to Harrison, 4715238 to Bernardi, 5002142 to Klosterhaus, JP-59209966, JP-

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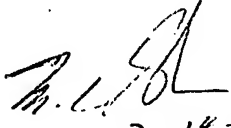
59209966, DE-4212473, FR-2685048 abstract, and 6101968 to Fitzgibbons et al. teach similar gear and toothed rack actuator mechanisms.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

*mmb 2/24/03*  
mmb  
February 24, 2003

  
2-24-2003  
MATTHEW C. GRAHAM  
PRIMARY EXAMINER  
GROUP 310